2017 Stream Survey Report

GOLD CREEK

ROTATION (330800)

Shawano County

Prepared by Matt Anchor

Introduction and Objectives

Gold Creek is a Class I, 2nd order trout stream that stretches for 4.8 miles in northwestern Shawano County. Gold Creek converges with Silver Creek which eventually flows in to the West Branch Red River. Silver Creek and the West Branch Wolf River are also Class I trout streams. Fishing access consists of 3 public road crossings, Red River Road, Willow Road East, and Gold Creek Road. Objectives of the rotation surveys are to determine species composition, relative abundance, and size structure for trout and other gamefish.

Regulations Category: Green **Size Limit:** None **Daily Bag Limit:** 5 (in total)

WISCONSIN DNR CONTACT INFO.

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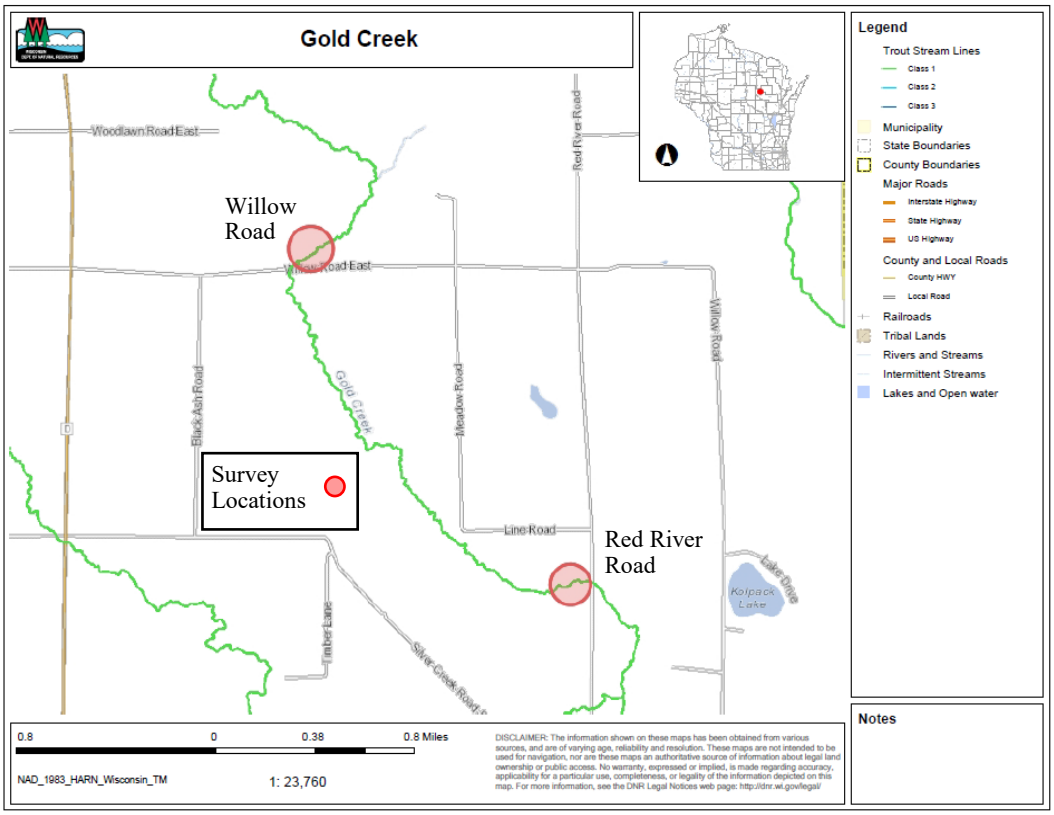
Survey Information

Station	Survey Date	Station Length	Temp. (°F)	Mean Stream Width	GPS (Start/Finish)	Gear	Number of Netters	Index of Biotic Integrity
Red River Road	06/26/2017	428 ft	53	15.1 ft	44.93995, -89.00182 44.93990, -89.00320	Tow-Barge Shocker	3	No
Willow Road	06/26/2017	410 ft	51	11.8 ft	44.95707, -89.02466 44.95765, -89.02332	Tow-Barge Shocker	3	Yes

Survey Method

- All streams are sampled according to WDNR wadeable streams monitoring protocols. Gold Creek is on a 12 year rotational schedule meaning two sites will get sampled every 12 years.
- All sampling stations are electrofished with either a towed barge shocker or backpack shocker.
- Sampling distance is at least 35 times the mean stream width or a minimum of 330 feet (100 meters).
- All trout and other gamefish are identified, measured for total length, and examined for fin clips. Observation of a fin clip would indicate a stocking origin rather than being naturally reproduced in the stream.
- In at least one stream segment (if multiple stations are being sampled) all fish species are collected and counted for calculation of an Index of Biotic Integrity (IBI).
- Other metrics used to describe trout populations include average length, catch per unit effort (CPUE), and length frequency distributions.



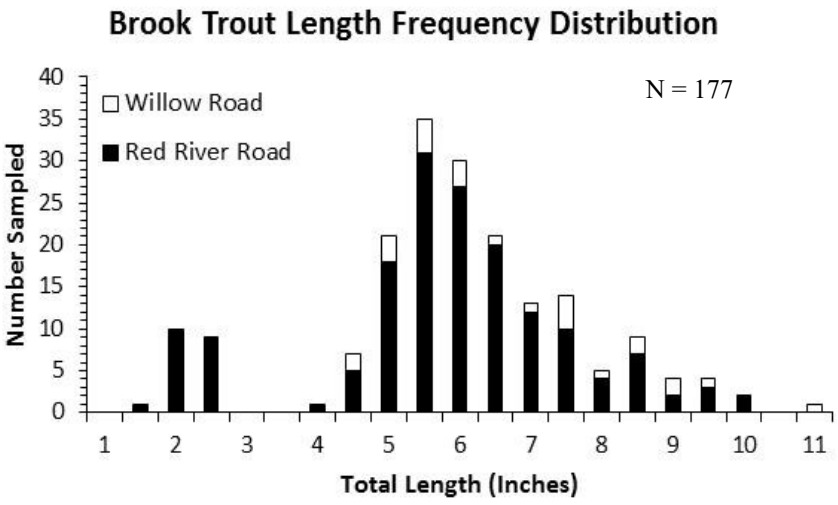
Metric Descriptions

- **Index of Biotic Integrity (IBI)** is a rating of environmental quality based on the fish assemblage. Scores of 90-100 indicate excellent stream quality while scores less than 30 indicate poor stream quality. Our analysis utilizes the IBI for Wisconsin coldwater streams. Coldwater streams in Wisconsin are those in which the maximum daily mean water temperature is usually <22°C (71.6°F). A coolwater stream IBI may also be used when a stream doesn't fit the temperature criteria for a coldwater stream.

- **Catch per unit effort (CPUE)** is a method of quantifying fish population relative abundance. For all trout surveys, we typically quantify CPUE as the number of a given size class of trout captured per mile of stream. CPUE indexes are compared to other trout streams throughout the state of Wisconsin by what percentile (PCTL) they fall out in . For example, if a CPUE is in the 90th percentile, it is higher than 90% of the other CPUEs in the state. CPUE percentiles can also be used to categorize trout abundance as low density (<33rd percentile), moderate density (33rd - 66th percentile), high density (66th - 90th percentile), and very high density (> 90th percentile).

- **Length frequency distribution** is a graphical representation of the number or percentage of fish captured by half inch or one inch size intervals.

Size and Abundance (CPUE) Metrics									
Station	Species	Total Number Sampled	Average Length (inches)	Length Range (inches)	CPUE calculated as the number of trout of a given size per mile (Number in parentheses represents the statewide percentile of a given metric)				
					Total CPUE (PCTL)	YOY CPUE	≥5" CPUE (PCTL)	≥8" CPUE (PCTL)	≥10" CPUE (PCTL)
Red River Road	Brook trout	162	6.0	1.9 - 10.3	1,999 (95th)	247	1,679 (98th)	222 (96th)	25 (89th)
Willow Road	Brook trout	25	7.0	4.5 - 11.3	322 (61st)	0	296 (78th)	90 (86th)	13 (79th)



Species Community and IBI for Willow Road

Species Sampled	Total	IBI Score	Integrity Rating
Brook Trout	25	100	Excellent
Mottled Sculpin	2		

Summary

- Brook trout were found at moderate to high densities in Gold Creek with a high density of desirable sized individuals (> 8 inches) captured at both sites as well.
- Young of year (YOY), yearling, and adult densities varied depending upon which segment was surveyed. Young of year were only collected at the Red River Road site where 247 young of year per mile of stream were sampled. Total abundances were much higher at the Red River Road site as well.
- Available habitat likely explains the differences in density and size structure observed between the two sites. The habitat near Willow Road was more swampy with a lot of soft sediment (e.g., silt and muck) whereas the habitat near Red River Road was more riverine with a mix of runs, riffles, pools, and undercut banks with rocky substrate in places. Habitat quality was better for all age classes near Red River Road.
- Gold Creek has excellent coldwater environmental conditions as indicate by the Index of Biotic Integrity (IBI) value of 100 from the fish assemblage collected at Willow Road. This is the highest possible value for this IBI indicating the best possible coldwater fish community.